Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425MHz/ 3700-4200 MHz and 14.0-14.5 GHz/11.7-12.2 GHz Bands	IB Docket No. 02-10

COMMENTS OF INTELSAT GLOBAL SERVICE CORPORATION

Intelsat Global Service Corporation ("Intelsat") welcomes the Commission's initiative to regulate the use of Satellite Earth Stations on Board Vessels ("ESVs") and hereby submits its comments on the issues raised in the above-captioned proceeding. As expressed in the earlier Notice of Inquiry of this proceeding,[1] Intelsat believes that the current regulatory basis for the operation of the ESVs is not adequate and welcomes the opportunity to comment on the proposals and questions that the Commission put forward in this Notice of the Proposed Rulemaking ("NPRM").

[1] *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in Bands Shared With Terrestrial Fixed Service,* Notice of Inquiry, 17 FCC Rcd 2646 (2002).

I. THE COMMISSION SHOULD ADOPT A REGULATORY REGIME FOR ESV RECEPTION IN THE NON-STANDARD DOWNLINK KU-BANDS

The Commission proposes to authorize ESVs to operate in the 14.0-14.5 GHz/11.7-12.2 GHz portions of the Ku-band on a primary basis.[2] Intelsat fully supports this proposal. However, Intelsat strongly believes that the operation of ESVs also should be authorized in the 10.95-11.2 GHz and the 11.45-11.7 GHz portions of the Ku-band. These portions of the Ku-band are used by ESVs for reception only and, thus, interference into other services is not an issue. Therefore, it should be possible to adopt an adequate regulatory regime to allow ESVs to operate in these bands.

Intelsat satellites in orbit are equipped with payloads operating in the 10.95-11.2 GHz and the 11.45-11.7 GHz bands and are capable of providing services to ESVs. Authorizing operation of ESVs in these bands would be consistent with the Commission's public interest goal of enabling important new telecommunication services to be provided to consumers on board vessels while at the same time protecting other services. Intelsat therefore proposes that the Commission authorize operation of ESVs in the 10.95-11.2 GHz and the 11.45-11.7 GHz portions of the Ku-band in addition to the bands proposed in the NPRM.

II. INTELSAT SUPPORTS BLANKET LICENSING OF ESVs IN C-BAND AND KU-BAND

Intelsat agrees with the Commission's arguments concerning the advantages of blanket licensing rules to permit operation of ESVs.[3] The configuration of ESV and VSAT networks is similar and the benefits of the regulatory regime currently used for VSAT networks have already

---

[2] *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/11.7-12.2 GHz Bands,* Notice of Proposed Rulemaking, FCC 03-286, ¶ 1 (rel. Nov. 24, 2003) ("*NPRM*").

[3] *See NPRM*, ¶¶ 5, 24, 48, 49.

been proven. Intelsat therefore supports the Commission's proposal to permit blanket licensing of ESV networks similar to the blanket licensing for VSATs in the C- and Ku-bands.

III. ADOPTION OF THE PROPOSED 2.4 MHz LIMITATION IS NOT NECESSARY

The Commission also seeks comments on whether to adopt the 2.4 MHz limitation as proposed by the United States at the WRC-03.[4] The Commission further asks whether the maximum EIRP density towards horizon adopted by WRC-03 should be adopted.[5]

Intelsat believes that the maximum C-band EIRP spectral density towards the horizon, adopted by WRC-03, also should be adopted for the domestic regulatory regime. The advantage of the domestic regulatory regime and the internationally adopted limit being consistent is that ESVs may be used internationally.

In addition, Intelsat believes that the 20.8 dBW maximum C-band EIRP towards the horizon, adopted by WRC-03, should be associated with the 11.2 MHz of the bandwidth assumed for the fixed service receiver (FSR) in the calculations of interference from ESVs into FSRs conducted at the ITU. Adoption of this limit would give more flexibility to ESVs and protect the FSRs. Under these conditions, there is no need to adopt the United States' proposed 2.4 MHz bandwidth limitation at C-band.

For the same reasons indicated above, Intelsat believes that the maximum Ku-band EIRP spectral density towards the horizon, adopted by WRC-03, also should be adopted for the domestic regulatory regime. The 16.3 dBW maximum Ku-band EIRP towards the horizon, adopted by WRC-03, should be associated with the 14 MHz of the bandwidth assumed for the FSR. Again, there is no need to adopt the 2.4 MHz bandwidth limitation at Ku-band.

---

[4] *NPRM*, ¶ 16.

[5] *Id.*

IV. THE COMMISSION SHOULD NOT PROHIBIT C-BAND IN-MOTION OPERATIONS WITHIN 300km OF THE U.S. COAST

The Fixed Wireless Communications Coalition (FWCC) opposes the licensing of ESVs in C-band because of concerns about the potential for ESVs to interfere with and affect the growth of Fixed Services ("FS") systems. The FWCC urges the Commission to abandon any further authorizations in C-band for in-motion activities within 300 km of the U.S. coast.[6] The Radio Regulations permit portions of C-band to be used for ESV operations and in order to implement the decision by WRC-03, the Commission seeks comments on a licensing mechanism for ESV operations in C-band.

Intelsat strongly opposes the ban of C-band in-motion operations within 300 km of the coast as proposed by FWCC. Coordination procedures for protection of FS operations from C-band ESVs operating in specific sea-lanes have been developed by the ITU and, consequently, the protection of FS can be assured by an appropriate licensing regime. Under these circumstances, there is no need to ban C-band ESV transmissions within 300 km of the United States coast. If adopted, this limitation would severely constrain the use of ESVs in many areas beyond those necessary to protect FS operations and, thus, would not serve the public interest.

Intelsat believes that the original distance of 100 km beyond which a waiver was granted by the Commission for C-band ESVs operations is more adequate for the U.S. geographic situation than 300 km. The 300 km distance was derived by the ITU based on a number of link configurations involving worst case path directions that are unlikely for the United States. Most of the satellites serving C-band ESVs near the U.S. coast are mid-ocean satellites because of the global coverage they offer. Consequently, given the latitude of the United States, in most cases the ESV antennas will be looking away from the U.S. coast. Therefore, statistically, there is less

[6] *NPRM*, ¶ 19.

probability of links producing high levels of interference than in the models based on a more general case of countries located anywhere with respect to the serving satellites.

V. THE COMMISSION SHOULD AMEND THE U.S. TABLE OF FREQUENCY ALLOCATIONS AND PART 25 OF THE FCC RULES TO PERMIT BLANKET LICENSING OF ESVs

Because of the international recognition of the possibility of operating ESVs with FSS satellites in C-band and Ku-band, Intelsat supports aligning the U.S. Table of Frequency Allocations and Part 25 of the FCC rules with the Radio Regulations so as to permit blanket licensing of ESVs in C- and Ku-bands.

VI. THE COMMISSION SHOULD ESTABLISH A REGULATORY REGIME FOR ESV OPERATION IN C-BAND

For good reasons, the Commission favors rules that encourage ESV use of the Ku-band.[7] Intelsat agrees that ESV operators should be encouraged to the use FSS frequency bands not shared with the FS. However, the fact is that C-band satellite coverage currently is much more extensive over the ocean regions than Ku-band coverage. It is therefore imperative that the Commission establish a licensing regime for ESVs operating in C-band as well as in Ku-band. Failure to do so would severely limit the use of ESVs and would disserve the public interest.

VII. USE OF ESVs OPERATING IN FIXED COORDINATED PLACES IN C-BAND SHOULD HAVE THE SAME STATUS AS REGULAR FSS TRANSMISSIONS

The Commission seeks comment on whether it might be feasible to permit ESV operations in C-band other than on a non-harmful interference basis when the ESV is not in motion.[8]

Intelsat believes that there is no difference – from a technical standpoint -- between coordinated fixed earth stations and coordinated fixed ESVs or coordinated operation of ESVs

[7] *NPRM*, ¶ 29.

[8] *NPRM*, ¶¶ 30, 44, 45.

along specific sea-lanes. Consequently, coordinated fixed locations or fixed routes for operation of ESVs should have the same status as coordinated earth stations. Once coordination between ESVs and FS operations is achieved, there is no need to impose a non-interference basis condition.

VIII. THE COMMISSION SHOULD NOT MAKE A DISTINCTION BETWEEN "IN-MOTION" AND STATIONARY KU-BAND ESVs

The Commission correctly notes that there is little likelihood of interference to ESVs from terrestrial U.S. sources and seeks comments on whether there is a need to delineate between the status of ESVs that are "in motion" versus stationary.[9]

Intelsat urges the Commission not to draw a distinction between the status of "in-motion" and stationary Ku-band ESVs. In significant respects, there is no difference between ubiquitous VSATs operating in the standard Ku-bands and ESVs operating in the same bands. Therefore, it is not necessary to draw a distinction between "in-motion" and stationary ESVs operating in the Ku- band.

IX. RESTRICTING KU-BAND ESV OPERATIONS TO VESSELS OF 300 GROSS TONS OR LARGER IS NOT NECESSARY

The Commission proposes to limit ESV operations in both C-band and Ku-band to vessels of 300 gross tons or larger. [10] The Commission states that the reason for such a possible limitation associated with minimum size of vessels is to keep ESVs away from existing in-land Ku-band operations and FS operations in C-band.[11]

The operation of ESVs should not be restricted only to vessels of certain size, because this would seriously impact the provision of ESVs service. The Commission should instead rely

[9] *NPRM*, ¶ 32.

[10] *NPRM*, ¶ 54.

[11] *NPRM*, ¶ 70.

on coordination as the best means to protect FS operations. There are many technical ways to ensure adequate protection of in-land Ku-band operations and FS operations in C-band, and they should be used in the coordination process to ensure that these operators will not suffer harmful interference. This would result in the most efficient use of the spectrum and best protect all users of the band.

X. THE COMMISSION SHOULD DEVELOP CONDITIONS TO PERMIT LICENSING OF 0.6m ESV ANTENNAS IN THE KU-BAND

The Commission states that the use of ESV antenna sizes smaller than 1.2m may be desirable provided compatibility with FSS and protection of other users can be maintained.[12] Intelsat fully agrees with the Commission and, given the widespread international interest in sub-meter ESV antennas, as well as their recognition by the ITU in Resolution 902, strongly supports the development of conditions to permit licensing of ESV antennas between 1.2m and 0.6m operating in the Ku-band.

XI. THE COMMISSION SHOULD ADOPT A 15-YEAR LICENSE TERM FOR KU-BAND ESVs

The Commission asks whether Ku-band ESVs should be eligible for 15-year licenses.[13] As noted above, there is similarity between the Ku-band VSAT and Ku-band ESV environments. Thus, Intelsat supports the tentative conclusion by the Commission that a 15-year license term for Ku-band ESVs is reasonable and should be adopted.

XII. THE COMMISSION SHOULD CONSIDER ROUTINE LICENSING OF LESS THAN 4.5m C-BAND ANTENNAS

Intelsat is aware of the fact that several proposals made to the FCC in connection with the "Part 25 Streamlining" process support routine licensing of C-band antennas as small as 2.4m.

---

[12] *NPRM*, ¶ 56.

[13] *NPRM*, ¶ 58.

Technical arguments have been made to the effect that such antennas can operate in a manner compatible with the two-degree orbital spacing environment of the United States. Therefore, Intelsat believes that the Commission should consider allowing use of 2.4m ESV antennas in C-band.

XIII. THE COMMISSION SHOULD CONSIDER LICENSING ESVS WITH C-BAND ANTENNAS SMALLER THAN 2.4m

Intelsat urges the Commission to continue to allow the operation of ESV C-band antennas smaller than 2.4m on a non-interference basis after adoption of the new ESV regulatory regime. This will allow operators to the continued flexibility to make efficient use of the spectrum while protecting other users.

Respectfully submitted,

INTELSAT GLOBAL SERVICE CORPORATION

By: *_/s/ David B. Meltzer_*

David B. Meltzer
General Counsel and Senior Vice President for
Regulatory Affairs